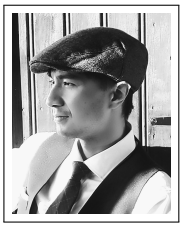
# NGUYEN Quang-Duy



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## Education

2017 – 2020 **PhD in Computer Science**
École Doctorale des Sciences Pour l'Ingénieur, University Clermont-Auvergne, France
UR TSCF, MathNUM departement, INRAE (Irstea), Clermont-Ferrand, France
*PhD defense : 16/07/2020*

2014 – 2015 **Master 2 in Networks and Communicating Systems**
University Claude Bernard Lyon I, France
*Note : 15.31/20.00 - Rank :* ***1/60***

2013 – 2014 **Master 1 in Computer Science**
Institut de la Francophonie pour l'Informatique (IFI), Hanoi, Vietnam
*Note : 14.20/20.00*

2007 – 2012 **Engineer of Information Technology in Computer Engineering**
Hanoi University of Science and Technology, Vietnam
*Note : 14.96/20.00*

## Experience

12/2021 – present **Postdoctoral Researcher**
LSEA laboratory, CEA List, Palaiseau, France
*Project : Tools and Methods for System Complex Engineering in Industrie 4.0*
*Keywords : I4.0, LocalSEA testbed, OPC UA, TurtleBot3, Niryo Ned, ROS*

10/2020 – 09/2021 **Postdoctoral Researcher**
LTCI laboratory, Télécom-Paris, Palaiseau
*Project : OPC-UA PubSub for Caméléon*
*Keywords : IIoT, SNCF, OPC UA PubSub, Embedded System, Zephyr OS, Node-RED, C*

01/2017 – 07/2020 **PhD Student**
UR TSCF, MathNUM departement, INRAE
*Project : ConnecSens, AgroTechnoPôle*
*Keywords : Agriculture, IoT, Ontology, Reasoning, OWL, SWRL, Java, Python*

08/2016 – 10/2016 **Research Engineer**
Programmation, Networks and Systems team, LaBRI laboratory, Bordeaux, France
*Project : Le Palais de la Mémoire*
*Keywords : Sounds, Method of Loci, Distributed Algorithms, Beacons, BLE, Android*

04/2015 – 07/2016 **Master 2 Intern / Research Engineer**
Networks team, ICube laboratory, Strasbourg, France
*Project : FIT/IoT-lab*
*Keywords : Multihoming, Mobility, Contiki, TelosB, Python, C/C++*

01/2014 – 07/2014 **Master 1 Intern**
Institute Francophone for Information Technology
*Project : Modeling and Diffusion of Mobile Users Profile*
*Keywords : Participative Detection, Modeling, Android, GAMA Platform, GAML*

## Publications*


Summary
First-authored items : 9/12+2
Citations : 35
H-index : 4
I-index : 2
Items by domains of interest : **IoT** (6), **I4.0** (3), **WSAN** (4), **OPC UA** (4), **KR&R** (5)
*Source: Google Scholar*


[CI.8] **Quang-Duy Nguyen**, Saadia Dhouib, and Patrick Bellot, *"A Unified Method to Design Bridges for OPC UA PubSub Networks"*, Proceedings of the 13rd International Conference on Complex Systems Design & Management (CSD&M 2022), Paris, France, 12/2022 (In Review)

[CI.7] **Quang-Duy Nguyen**, Saadia Dhouib, Yining Huang, and Patrick Bellot, *"Bridging OPC UA, ROS, and ROS 2 in Robotic Testbeds for Industry 4.0"*, Proceedings of the 16th International Symposium on Distributed Autonomous Robotic Systems (DARS 2022), Montbéliard, France, 11/2022 (In Review)

[CI.6] **Quang-Duy Nguyen**, Saadia Dhouib, Kunal Suri, and Fadwa Tmar, *"From Requirement Specification to OPC UA Information Model Design : A Product Assembly Line Monitoring Case Study"*, Proceedings of the 20th IEEE International Conference on Industrial Informatics (INDIN 2022), Perth, Australia, 07/2022

[CI.5] **Quang-Duy Nguyen**, Patrick Bellot, and Pierre-Yves Petton, *"An OPC UA PubSub Implementation Approach for Memory-Constrained Sensor Devices"*, Proceedings of the 31st IEEE International Symposium on Industrial Electronics (ISIE 2022), Anchorage, United States, 06/2022

[CI.4] **Quang-Duy Nguyen**, Fadwa Tmar, Yining Huang, and Saadia Dhouib, *"Early Lessons Learned from the Development of a Local OPC UA-based Robotic Testbed for Research"*, Proceedings of the 31st IEEE International Symposium on Industrial Electronics (ISIE 2022), Anchorage, 06/2022

[CI.3] **Quang-Duy Nguyen**, Saadia Dhouib, Jean-Pierre Chanet, and Patrick Bellot, *"Towards a Web-of-Things Approach for OPC UA Field Device Discovery in the Industrial IoT"*, Proceedings of the 18th IEEE International Conference on Factory Communication Systems (WFCS 2022), Pavia, Italy, 04/2022

[CI.2] **Quang-Duy Nguyen**, Catherine Roussey, Patrick Bellot, and Jean-Pierre Chanet, *"Stack of Services for Context-Aware Systems : An Internet-Of-Things System Design Approach"*, Proceedings of the 15th IEEE International Conference on Computing and Communication Technologies (RIVF 2021), Hanoi, 08/2021

[JI.2] Julian Eduardo Plazas, Sandro Bimonte, Christophe de Vaulx, Michel Schneider, **Quang-Duy Nguyen**, Jean-Pierre Chanet, Hongling Shi, Kun Mean Hou, and Juan Carlos Corrales, *"A Conceptual Data Model and its Automatic Implementation for IoT-Based BI Applications : UML Profile and MDA Approach"*, IEEE Internet of Things Journal, 10/2020

[T.1] **Quang-Duy Nguyen**, *"Interoperability and Upgradability Improvement for Context-Aware Systems in Agriculture 4.0"*, PhD thesis, University Clermont-Auvergne, France, 07/2020

[CF.2] **Quang-Duy Nguyen**, Catherine Roussey, Maria Poveda-Villalón, Christophe de Vaulx, Jean-Pierre Chanet, and Camille Noûs, *"CASO et IRRIG deux ontologies pour le développement de systèmes contextuels : cas d'usage sur l'automatisation de l'irrigation"*, Actes des 31es journées francophones d'Ingénierie des Connaissances (IC 2020), Angers, France, 07/2020

[JI.1] **Quang-Duy Nguyen**, Catherine Roussey, Maria Poveda-Villalón, Christophe de Vaulx, and Jean-Pierre Chanet, *"Development Experience of a Context-Aware System for Smart Irrigation using CASO and IRRIG ontologies"*, Special Issue "Semantic Technologies Applied to Agriculture", MDPI Applied Sciences Journal, 03/2020.

[W.1] Maria Poveda-Villalón, **Quang-Duy Nguyen**, Catherine Roussey, Christophe de Vaulx, and Jean-Pierre Chanet, *"Ontological Requirement Specification for Smart Irrigation Systems : A SOSA/SSN and SAREF Comparison"*, Proceedings of the 9th International Semantic Sensor Networks Workshop, 17th International Semantic Web Conference (ISWC 2018), Monterey, United States, 10/2018

[CF.1] Maria Poveda-Villalón, **Quang-Duy Nguyen**, Catherine Roussey, Christophe de Vaulx, and Jean-Pierre Chanet, *"Besoins ontologiques d'un système d'irrigation intelligent : Comparaison entre SSN et SAREF"*, Actes des 29es journées francophones d'Ingénierie des Connaissances (IC 2018), Nancy, France, 07/2020

[CI.1] **Quang-Duy Nguyen**, Julien Montavont, Nicolas Montavont, and Thomas Noël, *"RPL Border Router Redundancy in the Internet of Things"*, Proceedings of the 15th International Conference on Ad-Hoc Networks and Wireless (ADHOC-NOW 2016), Lille, France, 07/2016



*T : Thesis ; JI : International Journal ; CI : International Conference ; CF : Francophone Conference ; W : Workshop

## Research Skills

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|---|---|
| Project Management | |
| System Implementation | |
| Scientific Writing | |
| Presentation | |

## Linguistic

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|---|---|
| French | |
| English | |
| Vietnamese | |

## Technical Skills

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|---|---|
| Methodology | Mini-Waterfall, LOT, Agile |
| Operating System | Linux, Zephyr, Contiki, Android |
| Network Protocol | TCP/IP, OPC UA PubSub, MQTT |
| Vocabulary | SOSA/SSN, CASO, IRRIG, AAS |
| Standard | IEC62541, ISA-95, Sparkplug B |
| Tool | Protégé, Wireshark, GIT, Latex |

## Programming

| | |
|---|---|
| C/C++ | |
| Java | |
| Python | |
| Shell script | |
| Querry language | |

## References

- **Dr. Saadia DHOUIB**, Senior researcher and project manager in LSEA, DILS department,CEA List
*Direct supervisor in the project "Tools and Methods for System Complex Engineering in Industrie 4.0"*
✉ saadia.dhouib@cea.fr

- **Prof. Patrick BELLOT**, Director of the CCN team of LTCI, INFRES department, Télécom-Paris
*Direct supervisor in the project "OPC UA PubSub for Caméléon"*
✉ patrick.bellot@telecom-paris.fr

- **Dr. Jean-Pierre CHANET**, Director of UR TSCF, MathNUM department, INRAE
*Director of the thesis "Interoperability and Upgradability Improvement for Context-Aware Systems in Agriculture 4.0"*
✉ jean-pierre.chanet@inrae.fr